

Aesthetic Evaluations and Emotional Responses Evoked by Paintings and Classical Music in Artists, Musicians, and Non-Experts

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Introduction

- In most research examining emotional response, whether the auditory stimuli are music or the visual stimuli are pictures or paintings, participants have received only one type of stimulus presented to the corresponding sensory system. However, real-life emotional experiences involve the presence of stimuli simultaneously affecting different sensory modalities, such as vision and hearing.
- Unimodal studies have acted as a comparison for the fewer but more complex studies of emotion that involve stimuli that can be responded to by two sensory systems, so-called bimodal studies, such as a musical excerpt and a painting. Unfortunately, few studies have used bimodal stimuli, and those that have done so have not examined auditory or visual expertise (musicians and artists) and previous art experiences.
- Interactions between visual and auditory perceptual systems have been well established (e.g., McGurk & MacDonald, 1976). McGurk and MacDonald reported that visual information had a profound influence on what the participants heard in the auditory stimulus presentation. In particular, when the visual stimuli (e.g., lip movements of /ga-ga/) and auditory stimuli (e.g., hearing the syllable /ba-ba/) were inconsistent, or incongruent in the information they contained, participants experienced processing difficulties where they reported neither hearing nor seeing the actual stimuli being presented, but reported something completely different (i.e., perceiving /da-da/), a phenomenon called the McGurk Effect (McGurk & MacDonald).
- In short, inconsistencies between visual and auditory stimuli negatively interfered with the processing of both stimuli, whereas consistencies between visual and auditory stimuli enhanced perception of each type of stimulus. The McGurk Effect has been replicated consistently in language domains under different conditions and across different domains (e.g., incongruent audiovisual displays of a plucked and bowed cello), and demonstrates that visual information influences what is heard and auditory information influences what is seen.

Objectives and Hypotheses

- The main objective of this study is to document the differences in aesthetic evaluations and emotional responses evoked by paintings and classical music in musicians, artists, and non-experts.
- The present research is expected to demonstrate a strong emotional enhancement effect, where the simultaneous presentation of two emotional stimuli to different sensory systems results in greater emotional responses compared to emotional stimuli presented individually, as measured by subjective ratings following the presentation of art and music congruent in emotion.
- The following four hypotheses will be investigated in this study:
 - Musicians will provide higher ratings of arousal than artists and non-experts for all auditory stimuli.
 - Musicians and non-experts will provide higher ratings of arousal than will artists for all visual stimuli.
 - Musicians and artists will provide higher ratings of arousal and valence for all emotional congruent audiovisual stimuli compared to the non-experts.
 - For all participants and regardless of expertise, congruent audiovisual stimulus presentations will receive the greatest and most accurate ratings of valence (whether the emotion is positive or negative) and arousal for emotions compared to the valence and arousal responses to the unimodal presentation of the auditory stimuli or the visual stimuli.

Method

Participants



















- 40 non-experts
 - undergraduate students recruited from participant pool
 - no formal training in music or visual arts
- 40 artists and 40 musicians
 - recruited from School of Visual Art and School of Music
 - junior- or senior-class standing
 - experience with two or more visual artistic media or musical instruments
 - formally enrolled in art courses or music courses for at least 4 years
 - used a primary medium or played a primary instrument for at least 4 years

Audio and Visual Stimuli

- 18 musical excerpts

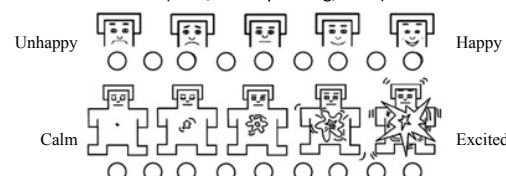
Happy		Sad		Fear	
Composer	Piece	Composer	Piece	Composer	Piece
Beethoven	Piano Concerto no. 4, 3rd mvt	Albinoni	Adagio	Mussorgsky	A Night on the Bare Mountain
Dvorak	Symphony no. 6 in D major, 4th mvt	Barber	Adagio for Strings	Respighi	Michael the Archangel
Ravel	Tombeau de Couperin, Rigaudon	Mozart	Piano Concerto no. 23, k. 488	Shostakovich	Symphony no. 8, 3rd mvt

- 18 images of paintings

Happy		Sad		Fear	
Artist	Piece	Artist	Piece	Artist	Piece
Torriglia		Munch		de Goya	
Renoir		Wallis		Fuseli	
Bouguereau		Degas		Bouguereau	
Cassatt		Kurzweil		Bruegel	
Seuart		Picasso		Böcklin	
Cassatt		van Gogh		Gericault	

Measures of Characteristic of Emotions and Aesthetics

- Self Assessment Manikin (SAM; Bradley & Lang, 1994)



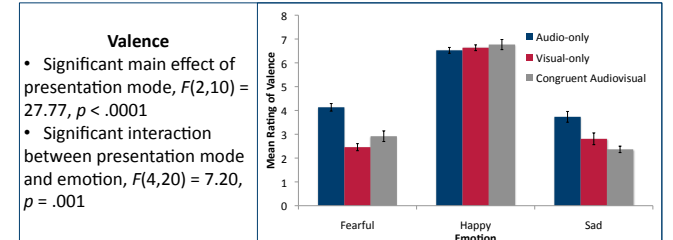
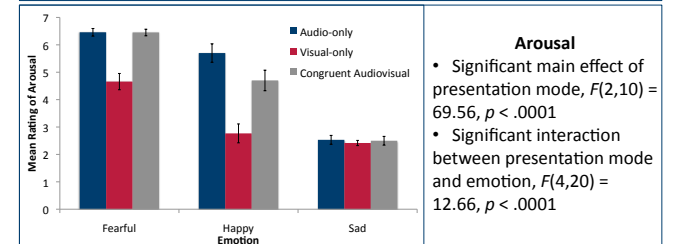
- Eight, binary, 9-point rating scale questions of aesthetics (Berlyne, 1977)

Method (continued)

Research Design and Procedure

- Condition 1: Unimodal (audio-only presentation and visual-only presentation)
- Condition 2: Unimodal and bimodal (audio-only presentation, visual-only presentation, congruent audiovisual presentation matched for emotion)
- Participants were presented with excerpts of classical music and images of paintings, and rated their emotionality using the SAM rating scale.

Preliminary Results



Discussion

- Preliminary analyses reveal a significant effect of stimulus presentation mode on both ratings of arousal and valence. In general, the audio-only presentation results in greater ratings of arousal and valence compared to the visual-only presentation.
- Data collection of musicians and artists is currently underway. Further analyses will examine the effect of expertise on levels of arousal and valence for emotional-eliciting stimuli.
- A future condition employs eye-tracking equipment which will record measures of ocular gaze, such as visual scan path, visual fixation times, and pupil dilations.

References

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